



A.D. 1835 N° 6843.

S P E C I F I C A T I O N

OF

JOSEPH NYE.

SYRINGES, STOMACH AND OTHER
PUMPS, &c.

L O N D O N :

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A.D. 1835 N^o 6843.

Syringes, Stomach and other Pumps, &c.

NYE'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOSEPH NYE, of Saint Andrew's Road, Southwark, in the County of Surrey, Mechanic, send greeting.

WHEREAS His present most Excellent Majesty King William the Fourth, by His Letters Patent, under the Great Seal of Great Britain, bearing
5 date at Westminster, the second day of June, in the fifth year of His reign, did, for Himself, His heirs and successors, give and grant unto me, the said Joseph Nye, His especial licence, sole privilege and authority, that I, the said Joseph Nye, my exors, admors, and assigns, or such others as I, the said Joseph Nye, my exors, admors, or assigns, should at any time agree with,
10 and no others, from time to time, and at all times during the terms of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "IMPROVEMENTS IN PUMPS AND INSTRUMENTS OR APPARATUS FOR CONVEYING FLUIDS INTO AND WITHDRAWING THEM FROM CAVITIES OF HUMAN AND OTHER
15 ANIMAL BODIES, PART OF WHICH IMPROVEMENTS ARE ALSO APPLICABLE TO OTHER PUMPS;" in which said Letters Patent is contained a proviso that I, the said Joseph Nye, shall cause a particular description of the nature of my said Invention, and in what manner the same is to be performed, to be inrolled in His said Majesty's High Court of Chancery within six calendar months
20 next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

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NOW KNOW YE, that in compliance with the said proviso, I, the said Joseph Nye, do hereby declare the nature of my said Invention, and the manner in which the same is to be performed, are fully described and ascertained in and by the following description thereof, reference being had to the Drawing hereunto annexed, and to the figures and letters marked thereon, 5
(that is to say):—

DESCRIPTION OF THE DRAWING.

Figure 1 represents a reservoir combined with a pump for administering fluids into the bowels, thus constituting an instrument which may be conveniently packed in a case, the pump being capable of folding down on the reservoir, or of standing in any direction to suit the desire of the person using the instrument. *a, a*, represents the reservoir which is to contain the fluid to be injected into the bowels. The upper surface of this reservoir *a* is curved, in order that the person applying the instrument for self-injection may sit thereon at the time of injecting the fluid. *b* is the injection pipe, 15 which screws into an opening at the upper surface of the reservoir, when intended for self-injection. But when it is intended to be used to administer fluids to another who is not sitting on the instrument, then the pipe *b* is to be unscrewed from the upper surface of the reservoir *a, a*, and screwed at the end at *c*. The plug *d*, which is shewn screwed into that opening being 20 removed and screwed into the opening at top, from which the pipe *b* is removed, and the eduction tube of the pump or syringe *e* communicating with both the openings for the pipe *b*, the fluid contained in the reservoir will be forced out of the pipe *b*, in whichever opening the same is placed, and the fluid will be prevented flowing out of the other opening by the plug *d*. The 25 fluid to be administered is put into the reservoir *a, a*, at the point *f*, there being an opening covered by the screw plug *f*, through the upper part of which is perforated a small hole, in order that the atmosphere may pass into the reservoir at the time of using the instrument, and press the fluid into the pump as it is worked. I would here remark, that various descriptions of 30 pumps or syringes may be used in combination with reservoirs constructed as above described, though I prefer those constructed according to some one or other of the improvements hereafter described; yet, as other pumps or syringes may be combined with such descriptions of reservoirs, that is to say, reservoirs which form the seat, or part of the seat, on which the person sits at the time 35 of using the instrument for self-injection, I do not, therefore, confine my Invention to the combining only such pumps or syringes with such reservoirs, but do declare the first part of my improvements consists in combining

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the reservoir *a, a*, with a pump or syringe, when such reservoir is so constructed as to form the seat or part of the seat of the person using the instrument.

I will now describe the second part of my Invention, which consists in the application of a peculiar joint to be used for connecting various parts of syringes, and the tubes for conveying fluids into the cavities of human and other animal bodies, in order to obtain a water-tight joint.

Figure 2 shows the various parts of this joint. *g* is the end of a tube and *h* is the end of another tube; on each of these tubes is formed a flanch, the flanch *i* being affixed to the tube *g*, and the flanch *j* is affixed to the tube *h*. In the flanch *i* is formed a recess to receive the flanch *j*, and *k* is a circular plate having a hole formed in the centre sufficiently large to pass over the tube *h*. In putting these parts together, the circular plate *k* is to be put on to the tube *h*, and the plate *k* be brought against the flanch *i*; by this means the flanch *j* will be included between the flanch *i* and the circular plate *k*, consequently the tubes *g* and *h* can turn in any direction independently of each other, at the same time a free passage will be secured for the flow of fluid from the tube *g* to the tube *h*, and if these parts be made with care, the joint will be water-tight. I may here remark, that a recess may also be made in the circular plate *k*, as well as in the flanch *i*, and in place of the parts *i* and *k* being retained together by screws, as shewn in Figure 2, they may be screwed together by forming one with a male and the other with a female screw at their respective circumference, or they may be permanently fixed by soldering them together; though in most instances it will be desirable to have them capable of being taken to pieces, in order to clean them in the event of becoming stopped.

Having thus described the nature of the joint, the application of which to the tubes of syringes for conveying fluids into human and other animal bodies, constitutes the second part of my Invention, I will now describe more fully Figure 1, and then proceed to describe the other Figures in the Drawing.

In Figure 1, *e* is the pump barrel, the lower part of which has a small branch *h* attached thereto. This tube *h* is connected by a joint, similar to that above described, to the tube *g*, which passes into the reservoir *a, a*, and thence into the valve chest, which consists of a tube affixed vertically in the reservoir *a, a*, yet sufficiently open at bottom to allow of the flow of the fluid into the pump when the same is worked. In this tube is contained two valves which open in the same direction, that is, upwards, and I prefer they should be spherical valves. To the upper part of this tube is affixed the eduction tube which leads to the pipe *b*, and the tube *g* enters the tube which

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contains the two valves (called the valve chest) at a point between the two valves; consequently, the valves will act properly for the working of the syringe; (that is to say) the lower valve will rise when the piston is ascending, and permit the fluid to pass into the barrel of the syringe *e*. The return stroke will close the lower valve and open the upper one, and the charge of 5 fluid will be forced out at the injection pipe *b*. The construction of this valve chest will become more clear when I describe other arrangements shown in the Drawing.

Figure 3 shows another arrangement of a pump or syringe and reservoir combined, such reservoir forming, as in the former instance, the seat or part 10 of the seat of the person when using the instrument for self-injection, the pump or syringe in this instance being double acting and fixed horizontally, and remains at all times in the position shown in the Figure. And it should be remarked, that the syringe has a valve chest which is double that above described, one part acting as the valve chest for one side of the piston, and 15 the other valve chest acting for the other side of the piston, as will be hereafter more clearly understood.

Figure 4 is another combination of a reservoir with a pump or syringe, the reservoir forming the seat or part of the seat of the person when using the instrument for self-injection. In each of these Figures the same letters 20 indicate similar parts.

Figures 5, 6, 7, 8, and 9, show the second part of my improvements, the waterproof flexible joint applied to the eduction pipes of syringes for conveying fluids into the cavities of the human and other animal bodies. Having already given a full explanation of the construction of these joints, no further descrip- 25 tion will be required; and it may only be desirable to remark, that the number of the joints to each tube may be varied without departing from my Invention, as the same relates to the application of such descriptions of joints to tubes used for syringes.

I will now describe the third part of my Invention, which consists in a 30 mode of constructing that part of a syringe for conveying fluids into and withdrawing them from the cavities of human and other animal bodies.

Figure 7, 8, and 9, show this third improvement as variously applied to three syringes, which may be employed as stomach pumps or for injecting. A, in each of the Figures 7, 8, and 9, represents the part of the syringe con- 35 structed according to my improvement. It may be desirable to remark, that according to the ordinary construction of such syringes it is usual to make that portion which contains the valves of several pieces of castings or tube, which are brazed or soldered together, which is an expensive process, and

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does not, when complete, produce that strength which is obtained by my mode of construction, whilst at the same time that portion of a syringe which contains the valves when made according to my improvement may be all performed in the lathe, and, consequently, much less difficult of construction.

5 The sphere or globe A, which constitutes the valve chest in each of these arrangements, is of one piece of metal; the induction and eduction ways for the fluid being drilled out, and the openings or ways so drilled are enlarged at those parts which receive the valves. The lower portion of the barrel of the syringe, the induction pipe, and also the eduction pipe, are all screwed
10 into the sphere or globe A, as is clearly shewn in the Drawing. Figure 7 is a single-acting syringe. Figure 8 is a double-acting syringe, and has therefore two induction ways drilled in the portion of the syringe which contains the valves. Figure 9 shows a single-acting syringe, which differs only from Figure 7 in placing the valves one directly over the other, and connecting
15 the induction pipe to the barrel on one side of the sphere A, as is clearly shown in the Drawing. I would remark, that it is not essential that the figure of this part A of the syringe should be spherical, though it is most ornamental. What I claim as my third improvement being the making of the part A of syringes of one piece of metal, having suitable openings or ways
20 made therein, as above described.

The fourth part of my Invention consists in certain arrangements of valves for obtaining a double action to pumps or syringes having but one barrel. Figures 5 and 6 show two double-acting syringes having my improvement applied thereto. B, C, are two tubes affixed to the plate D, which is affixed
25 by soldering or otherwise to the barrel of the syringe. These tubes B, C, are tapped with a female screw from end to end, as is clearly shown in the section, Figure 10. The seats E of the valves have male screws cut thereon to fit the female screws in the tubes B and C. The upper part of the tubes B and C open into each other, and the eduction pipe is affixed to the upper
30 part of either of these tubes, as is shown in the Drawing. The valves F are, with their seats, screwed up the tubes B and C till they are above the openings where the tubes G and H are affixed to the tubes B and C; and the valves I, and their seats, are also screwed into the tubes B and C, but below where the tubes G and H are connected, which is all clearly shown in the
35 Drawing. The tubes G and H are for the purpose of admitting of the flow of the fluid to and from the cylinder or barrel of the syringe. The only difference in the construction of the two syringes Figures 5 and 6, is that in Figure 5, the tubes B and C are affixed to a perforated plate J, to which the induction pipe is screwed, and Figure 6, the induction pipe, is branched,
40 in order to slide into the two tubes B and C.

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Figure 11 shows my first improvement, that of making the reservoir the seat, or part of the seat, applied to a bidet. It will be evident that, if it be desired, there may be an additional outlet for the fluid in any part of the eduction way, in order to screw on a flexible tube. In such case, when that tube is used, the pipe *b* on the reservoir *a* must be removed, and the opening 5 closed by a screw nut. The fluid will then be forced through the flexible tube and be directed in the way desired.

The fifth part of my Invention consists in producing a flexible metal tube for a stomach pump, by means of ball and socket joints; but I do not, in the present instance, claim the making of the metallic tubes of syringes with the 10 ball and socket joints, having already claimed that in a former Patent, but in the present instance I only claim the improvement hereafter described, whereby I am enabled to make the tube which is passed into the stomach a flexible metal tube. Figure 12 shows a tube constructed according to my Invention, which consists of a series of large and small tubes combined together 15 by ball and socket joints. *K, K,* are the larger tubes, and *L, L,* the smaller tubes. *N* are the balls which are formed on the tubes *L, L.* The interior of the larger tubes *K, K,* are formed to receive these balls, as is shown in the Drawing. *M, M,* are screw nuts, which are put on to the smaller tubes before the balls are affixed thereto. These nuts are formed hollow to receive 20 the balls, and are screwed to the larger tubes, and are then pinned and soldered, or otherwise affixed, and the whole, if made with care, will be air and water tight. These tubes will be found of great advantage in hot climates, where the ordinary stomach tubes are quickly destroyed.

Figure 14 shows another arrangement of valves for producing a double 25 action or continuous flow from one barrel or cylinder. This arrangement is particularly intended for beer engines. These valves are very similarly arranged as to their principle of action to those shown in Figures 5 and 6, and are therefore marked with the same letters of reference, and the same description there given will for the most part apply to the present arrangement, the 30 principal difference being, that the tubes *B, C,* open respectively into a tube *V,* to which the eduction way is to be affixed. This tube *V* is made with screws, in order that a series of pumps or engines may be fixed in succession, as is indicated by the Drawing.

Figure 15 shows another arrangement of valves slightly differing in the 35 arrangement from that shown in Figure 14, but combined according to the same principle. The tube *V* in this instance being placed between the upper and lower valves, and the eduction way is taken from a tube which connects the upper valves. In all these arrangements of valves by which double action or continuous stream is obtained from one barrel, the same principle of com- 40

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bination is observed ; that is to say, that two arrangements of induction and eduction valves are placed side by side, the water or fluid way for one side of the piston being affixed between the two valves in one arrangement of valves, and the water or fluid way to the other side of the piston being affixed to an opening between the other two valves, and all the valves opening in one direction ; and I would have it understood, that it is the application of these combined arrangements of valves, when placed side by side and connected to a single barrel of a syringe or pump, for producing a constant stream or double action as above described, which constitutes the fifth improvement
10 secured under the present Letters Patent, but I would have it understood, that I do not claim similar arrangements of valves when the same are applied to single-acting syringes or pumps, but only when two such arrangements are combined, for producing a double-acting pump or syringe from one barrel and piston as above described.

15 Figure 13 shows the sixth part of my Invention, and consists in the application of an air vessel to the end of a garden engine or syringe. O is the induction tube to the barrel of the pump, which passes partly round the vessel P, which is a spherical vessel, as is shown in the Drawing. Q is the eduction pipe which passes into the air vessels. On working the pump, water rises into the barrel of the syringe or pump by the tube O, through the vessel P, and on
20 the return stroke the water is forced back and closes the valve R, and passes through the valve S into the air vessel, and is forced from thence in a constant stream by the reaction of the air in the air vessel through the tube W. It should be remarked, that the syringe can be unscrewed at the point T, and
25 the rose head or other outlet off the pipe U, can be screwed on to the end of the syringe, and thus produce an ordinary hand syringe, the parts being made to the same dimensions. Fig. 13½ shows an arrangement of a double-acting garden syringe, having the same arrangement of valves and waterways described to Figs. 5 and 6, applied thereto, and also an air vessel similar to
30 that described in Fig. 13. In this instance, the syringe barrel is not capable of being unscrewed, as is the former case.

Having thus described Figures 12 and 13, I would have it understood, that what I claim as my sixth improvement is, the application of the air vessel P to the end of garden engines or syringes, as above described.

35 In witness whereof, I, the said Joseph Nye, have hereunto set my hand and seal, this Second day of December, One thousand eight hundred and thirty-five.

JOSEPH (L.S.) NYE.

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HENLEY.

AND BE IT REMEMBERED, that on the Second day of December, in the year of our Lord 1835, the aforesaid Joseph Nye came before our said Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the 5. tenor of the Statute made for that purpose.

Inrolled the Second day of December, in the year of our Lord One thousand eight hundred and thirty-five.

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NYE'S DISCLAIMER.

In the Matter of a Patent granted to Joseph Nye, of Saint Andrew's Road, Southwark, in the County of Surrey, Mechanic, for his Invention of "IMPROVEMENTS IN PUMPS AND INSTRUMENTS OR APPARATUS FOR CONVEYING FLUIDS INTO AND WITHDRAWING THEM FROM
5 CAVITIES OF HUMAN AND OTHER ANIMAL BODIES, PARTS OF WHICH IMPROVEMENTS ARE ALSO APPLICABLE TO OTHER PUMPS," bearing date at Westminster, the Second day of June, One thousand eight hundred and thirty-five.

DISCLAIMER AND MEMORANDUM OF ALTERATION proposed to be
10 entered by the said Joseph Nye, with the Clerk of the Patents of England, pursuant to an Act passed in the fifth and sixth years of His late Majesty's reign, entitled "An Act to amend the Law touching Letters Patent for Inventions.

I, the said Joseph Nye, claimed six particular improvements, which are
15 fully described and ascertained in the said Specification, and the improvement explained under the second head of the Invention, consisted, as therein is stated, of the application of certain joints to the eduction tubes of syringes, whereby such tubes were enabled to fold, and were described to be capable of movement in various directions, and are clearly shewn in the Drawing in
20 Figures 1, 2, 5, 6, 7, 8, 9, 13, and 13¹/₂, annexed to the said Specification; and the concluding paragraph of the description of the said second part of the Invention is in the following words:—"And it may only be desirable to
" remark, that the number of joints to each tube may be varied without
" departing from my Invention, as the same relates to the application of
25 " such description of joints to tubes for syringes," thereby intending to confine the said second part of my Invention solely to that class of small portable hand pumps which are more generally called syringes, that is, small pumps, the piston rods of which are worked directly by the hand, by handles affixed on the piston rod without the intervention of levers moving on axes; but
30 I have been informed that from the wording of the said claim a more extended construction may be put thereon; I do therefore wish to disclaim any exclusive right to the application of such description of joints to the tube or tubes of any pump where the piston rod is not directly actuated by the hand, but is worked by the intervention of a lever moving on a fulcrum or axis. By
35 which Disclaimer I intend strictly to confine myself to the application of such joints to those syringes or small pumps only, the piston rods of which are acted on directly by the hand employed for administering clisters, and also

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such as are used for horticultural or garden purposes, and are held in the hand when used, such two classes of pumps having induction and eduction ways separate from each other, as described in the Specification.

In witness whereof, I, the said Joseph Nye, have hereunto set my hand, this Twenty-eighth day of August, in the year of our Lord One thousand eight hundred and thirty-seven.

JOSEPH NYE. (L.S.)

To the Clerk of the Patents of England.

This is to certify, that Joseph Nye, of Saint Andrew's Road, Southwark, in the County of Surrey, Mechanic, hath applied to me for leave to enter with you the above-written Disclaimer and Memorandums of Alteration of part of the Specification of a certain Invention for which Letters Patent were duly granted to him under the Great Seal, dated the Second day of June, One thousand eight hundred and thirty-five, and the Specification of which was enrolled on the Second day of December, One thousand eight hundred and thirty-five; and on considering of the said application I directed him to advertize his said Disclaimer and Alterations in the London Gazette, and in the Times and Morning Chronicle newspapers, and such advertizements have been duly made in the said Gazette, the Times, and Morning Chronicle, on the Eleventh day of October, One thousand eight hundred and thirty-six, and no objection having been made to the said application, I have accordingly granted leave to the said Joseph Nye to file his said Disclaimer and Memorandums of Alteration of part of the Specification of his said Invention, pursuant to the Statute passed in the sixth year of His late Majesty's reign, entitled "An Act to amend the Law touching Letters Patent for Inventions.

Lincoln's Inn,
22nd August, 1837. }

R. M. ROLFE.

AND BE IT REMEMBERED, that on the Twenty-eighth day of August, in the year of our Lord 1837, the aforesaid Joseph Nye came before our said Lady the Queen in Her Chancery, and acknowledged the Disclaimer aforesaid, and all and every thing therein contained and specified, in form above written. And also the Disclaimer aforesaid was stamped according to the tenor of the Statute made for that purpose.

Inrolled the Thirtieth day of August, in the year of our Lord One thousand eight hundred and thirty-seven.

LONDON :

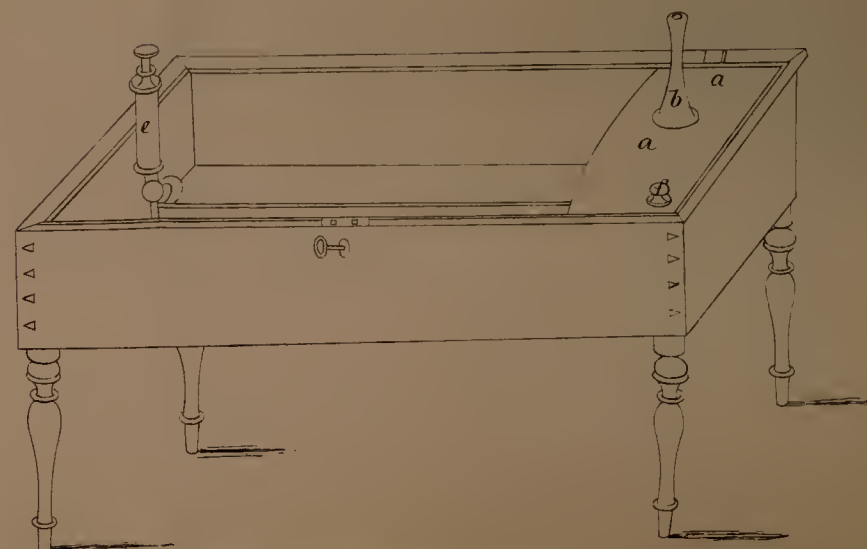
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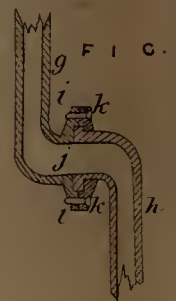
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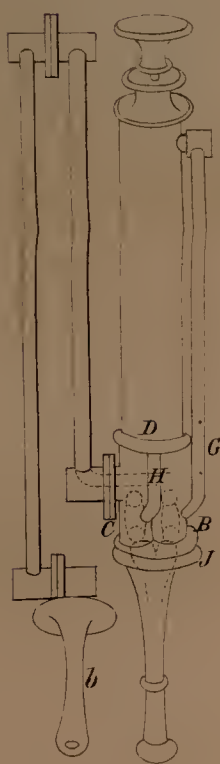
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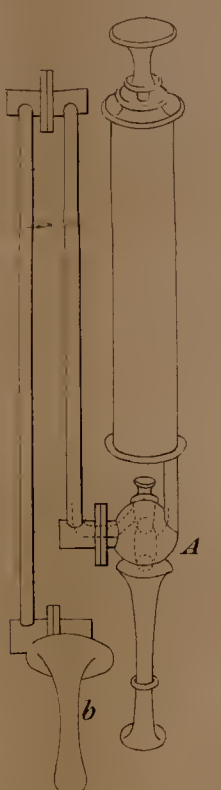
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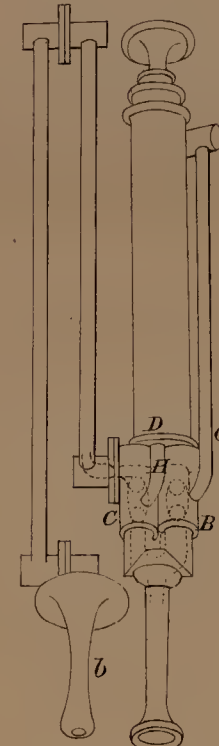
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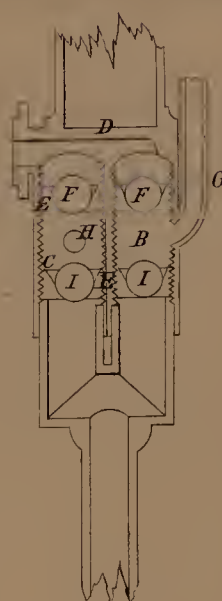
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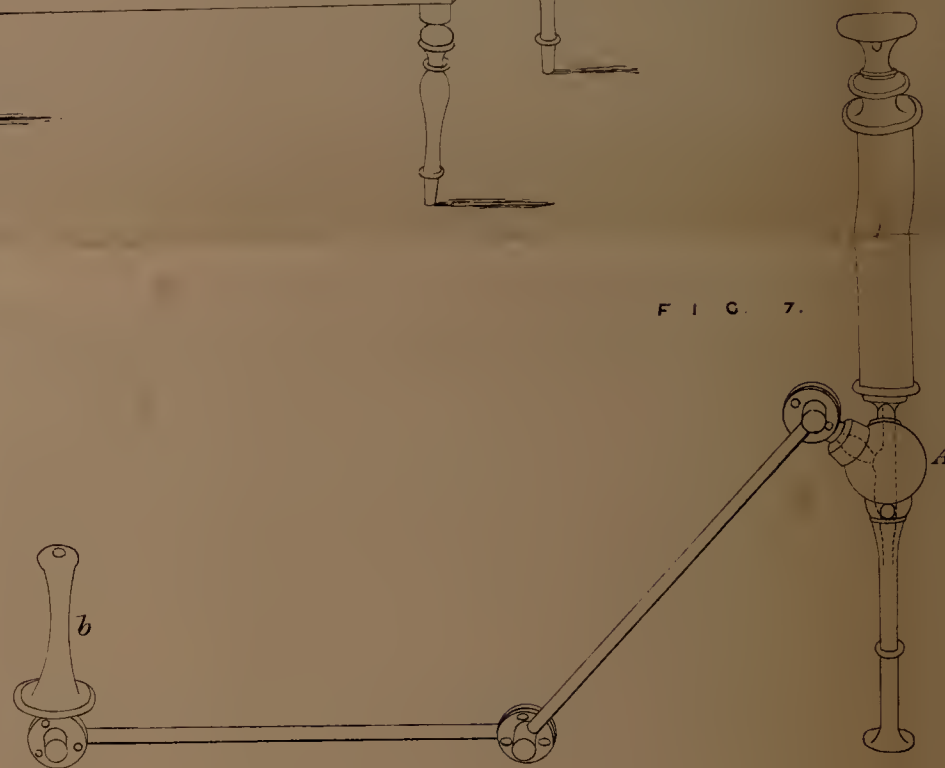
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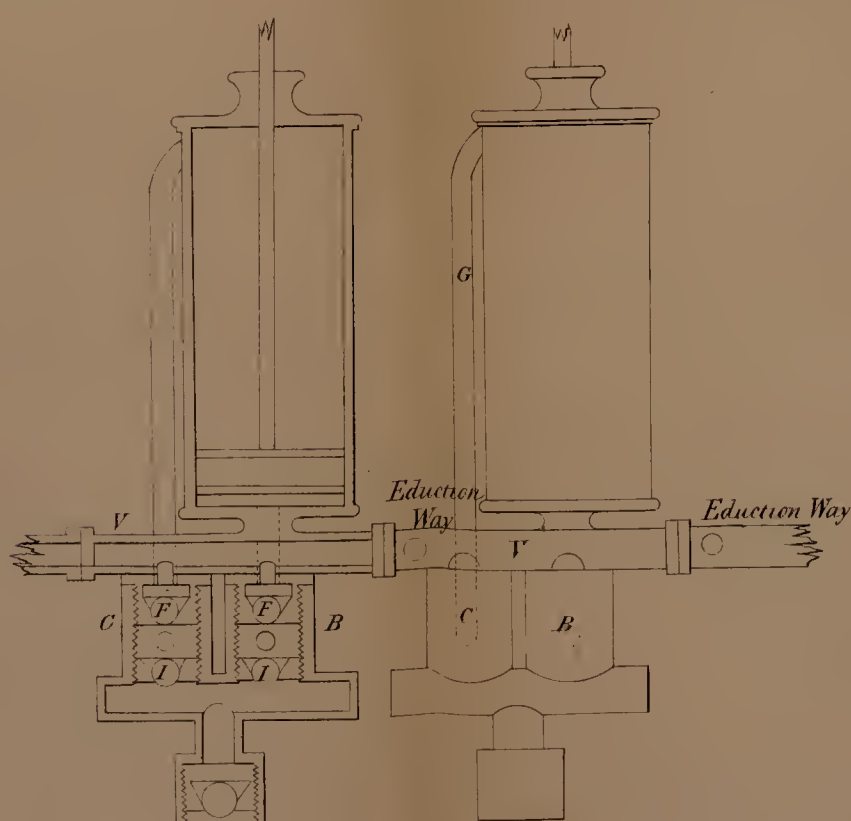


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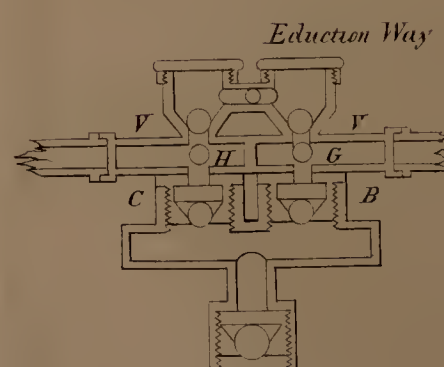
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